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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,435

03/31/2004

Dennis Postupack

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EXAMINER

LAZORCIK, JASON L

ART UNIT

PAPER NUMBER

1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/813,435

Applicant(s)

POSTUPACK ET AL.

Examiner

Jason L. Lazorcik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2006 and 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 46-49, 55-59 and 61-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 46-49, 55-59 and 61-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/22/2004</u> . | 6) <input checked="" type="checkbox"/> Other: <u>IDS Filed 10/29/2004</u> . |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, Species 1 (claims 1-16, 46-49, 55-59, and 61-72) drawn to a method of chemically tempering glass by dipping the formed glass article in a molten salt bath in the reply filed on 12/20/2006 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 46, 47, 48, 49, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66, 70, 71, and 72 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by British Patent (GB 1,010,164) assigned to PITTSBURGH PLATE GLASS CO and hereafter referred to as GB'164.

With respect to the identified claims, the instant reference teaches (Example IV-Samples 60-77, Page 12, lines 16-44) a method wherein a "polished" soda-lime silica glass plate is preheated to 1050°C (565°C) for 10 minutes, immersed in a molten salt bath of potassium nitrate for 15-60 seconds at 1050°F, removed from the bath and maintained at 950°F (510°C) for 15 minutes. While the instant reference teaches a "typical" composition of soda lime silicate glass which is suitable for the inventive

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method (page 2, lines 31-42), it is silent regarding the strain point and annealing point associated with the composition. Regarding Claim 56, the instant reference clearly indicates that acceptable processing temperatures may range "as high as 1200°F to 1400°F" (Page 3, Lines 51-58)

As evidenced in the disclosure by Grubb (US 3,498,773), a glass material having a composition within the GB'164 experimental range has an annealing point of 1033°F and a strain point of 986°F (Column 9, Lines 66-75). Therefore the GB'164 reference is understood to inherently teach dipping the glass article in a salt bath "at least above the annealing point temperature" and to maintain said article at a temperature "between the strain point temperature and about 150°C below the strain point temperature".

Regarding Claims 7, 8, 10 through 12, and 65 to 66 the reference teaches "the potassium nitrate salt can be employed either alone or in conjunction with other potassium salts, e.g., potassium chloride, to constitute the potassium salt treating bath...An exemplary mixed potassium salt treating bath within the purview of the present invention is one having about 70 mole percent potassium nitrate and 30 mole percent potassium chloride. However, the advantages attendant to the method of the present invention can be secured using a potassium nitrate potassium chloride treatin gbath having a potassium nitrate mole percent ranging from 50 percent to 100 percent. (page 4, lines 89-116)

Claim 16 and 69 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over GB'168. In accord with the instant claim, the GB'168 reference teaches that after treating of the glass article, a

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thermoplastic layer or "scuff resistant coating" may be applied to the surface of the glass article (page 5, lines 102-111). In the event that the instant disclosure is deemed not to anticipate the limitations set forth in the instant claim, it is the Examiners position that one of ordinary skill in the art would have been well aware and fully equipped to perform these actions. Specifically, it would have been obvious to subject the salt treated glass article to subsequent processing steps as routinely practiced in the art (e.g. cleaning residual salt from the treated article and/or applying surface treatments or coatings to said article).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 15 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over British Patent (GB 1,010,164) as applied under 35 U.S.C. 102(b) above in the rejections of Claim 1 and 61, respectively.

Claim 15, 68 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB'164. The instant reference teaches use of a polished glass substrate however it is silent regarding the nature of the polishing process or that it should specifically be performed by "flame polishing". Flame polishing is a common technique used by practitioners in the Art as a method of attaining a polishing glass performs. Absent any unexpected results to the contrary, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize "flame polishing" to produce the disclosed "polished" glass substrate.

Claims 9 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over British Patent (GB 1,010,164) as applied under 35 U.S.C. 102(b) above in the rejections of Claim 1 and 61, respectively, and in further view of Duke (US 3,573,072). GB'164 teaches that the molten salt bath may comprise a mix of potassium salts, however said reference is silent regarding the specific use of potassium sulfate. The Duke reference teaches that "While the nitrate bath may be used at temperatures up to about 600' C. or so, the salt tends to decompose at such high temperatures and severely attack the article surface as well as containers and other equipment. For higher temperature work then, it is convenient to employ a molten salt bath composed of potassium chloride and potassium sulfate and based on a eutectic mixture of these salts. This is a mixture of about 52% KCl and 48% K₂SO₄ which melts at about 690' C." With the Duke reference

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in hand, one of ordinary skill in the art at the time of the invention seeking to perform the GB'164 process at temperatures above about 600oC would obviously made use of a salt bath comprising potassium sulfate as taught by Duke. The use of potassium sulfate would have been an obvious approach due to the greater stability and lower chemical reactivity of this composition at elevated temperatures.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. While not utilized in the present art rejection, the GB 1,346,747 reference discloses a method of chemically strengthening a glass soda lime silicate preform by a two step process. Said process is understood to comprise a first treatment above the anneal point followed by a second treatment below the strain point. Of particular interest in the instant reference is the establishment of both time and temperature of the treatment steps as result effective variables of the strengthening process (page 1, Lines 57-78). The reference clearly indicates in the identified passage that it is well within the prevue of one of ordinary skill in the art to optimize both variables in order to achieve an adequate process in the most economical fashion.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Lazorcik whose telephone number is (571) 272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLL


ERIC HUG
PRIMARY EXAMINER